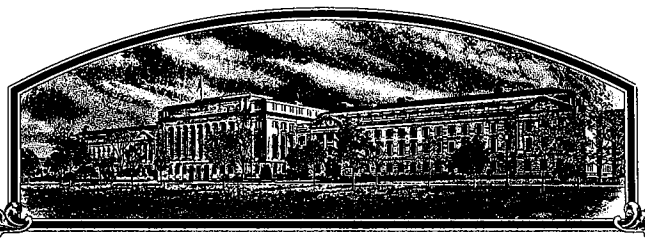
No. 9200012



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Northrup King Co.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'911'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 30th *day of* November *in the year of our Lord one thousand nine hundred and* ninety-two.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
Secretary of Agriculture

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Office, OIRM, Room 404-W, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB #0581-0055), Washington, 20250.
FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Northrup King Co.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.

3. VARIETY NAME
911

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*
7500 Olson Memorial Highway
Golden Valley, MN 55427

5. PHONE *(Include area code)*
612-593-7333

FOR OFFICIAL USE ONLY

PVPO NUMBER
9200012

FILING
Date: Oct. 28, 1991
Time: ☑ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2150.00
Date: Oct. 28, 1991
Certificate Fee: $250.00
Date: Nov. 2, 1992

6. GENUS AND SPECIES NAME
Zea mays L.

7. FAMILY NAME *(Botanical)*
Gramineae

8. CROP KIND NAME *(Common Name)*
Corn

9. DATE OF DETERMINATION
October, 1988

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
1976

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

12/3/92 JMS
~~Robert W. Romig~~ Dr. Ronald S. Ferriss
Northrup King Co.
~~7500 Olson Memorial Highway~~ 317 330th St.
~~Golden Valley, MN 55427~~ Stanton, MN 55018-4308 PHONE *(Include area code)*: 507-645-5621 ~~612-593-7305~~

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

a. ☒ Exhibit A, Origin and Breeding History of the Variety.
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety.
d. ☐ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office Oct. 25, 1991
g. ☒ Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act.)*
☐ YES *(If "YES," answer items 16 and 17 below)* ☒ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES *(If "YES," through* ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____ .)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES (If "YES," give names of countries and dates) United States July 1991
☐ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *[Owner(s)]*	CAPACITY OR TITLE	DATE
Robert W. Romig	Vice President, Research	Oct. 25, 1991
SIGNATURE OF APPLICANT *[Owner(s)]*	CAPACITY OR TITLE	DATE

EXHIBIT A

Origin and Breeding History of the Inbred

1. 911 was derived from the commercial hybrid Pioneer 3737. The breeding method used was simple pedigreed ear to row.

2. The breeding history of inbred 911 is as follows:

   1984 Stanton, MN--F_1 selfed to create F_2 population.

   1984 Hawaii winter--About 500 F_2 plants grown and self-pollinated, 283 ears selected primarily on the basis of stalk quality and the absence of ear mold.

   1985 Stanton, MN--283 F_2 S_1 ear rows selfed with selection pressure for early silk date, stalk quality, earing ability, and seed quality; F_2 S_2 generation.

   1986 Stanton, MN--F_2 S_2 ear rows selfed with continued selection pressure for early silking, stalk quality, and earing ability; F_2 S_3 generation, first test cross seed made.

   1987 Stanton, MN--F_2 S_3 generation ear rows selfed with continued selection pressure for early silking, stalk quality, ear size, and seed quality; F_2 S_4 generation, first testcross data made with S_3's.

   1987 Hawaii winter--Testcross survivors advanced to F_2 S_5 and testcrosses remade.

   1988 Stanton, MN--F_2 S_5 generation ear rows selfed, advanced to F_2 S_6 and advanced screening tests conducted.

   1988 Hawaii winter--A single F_2 S_6 ear culture was selfed; F_2 S_7 generation was derived and bulk shelled to create breeder's seed.

   1989 Stanton, MN--F_2 S_7 generation grown and increased to produce additional breeder's seed.

   1990 Final uniform S8873 was grown and isozyme tested for 100% purity. The breeder's seed is F_2 S_8.

JMS 8/20/92

3. 911 is a uniform stable inbred and appears to be homozygous for all discernible characters. '911' was judged for 3 generations for uniformity and stability.

EXHIBIT B (AMENDED)

Novelty Statement for Corn Inbred '911'

Corn inbred 911 phenotypically most closely resembles the public inbred OH43, having a similar plant type, tassel type, and cob color. Inbred 911 silks earlier than OH43 and has a larger number of lateral tassel branches, as shown below.

	OH43	911	LSD.05	STD. DEV.
Heat units from emergence to 50% silk	1476	1403	52	15.63
Number of lateral tassel branches	6	9	2	1.42

These results are based on measurements taken in 1990 on ten plants per replication, three replications per location at each of three locations. The locations were: London, Ontario; Stanton, Minnesota; and Janesville, Wisconsin.

In addition to the above, 911 differs qualitatively from OH43 by having bright pink silk versus OH43's green silk at three days after emergence. Inbred 911 has purple glume color versus OH43's green glume color. Inbred 911 has better grain quality and a looser husk than OH43.

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Corn)

OBJECTIVE DESCRIPTION OF VARIETY
CORN *(ZEA MAYS)*

NAME OF APPLICANT(S)
NORTHRUP KING CO.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
P.O. Box 959
Minneapolis, MN 55440

FOR OFFICIAL USE ONLY
PVPO NUMBER 9200012
VARIETY NAME OR TEMPORARY DESIGNATION
911

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[2] 1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

[2] 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability): *(Under "comments" (pg. 3) state how heat units were calculated)*

[6][9] DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	[1][4][0][3]	HEAT UNITS
[ ][ ] DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	[ ][ ][ ][ ]	HEAT UNITS
[ ][ ] DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	[ ][ ][ ][ ]	HEAT UNITS

4. PLANT:

[1][8][0] CM. HEIGHT (To tassel tip)

[0][4][7] CM. EAR HEIGHT (To base of top ear)

[1][4] CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

[1] 1 = NONE 2 = 1–2 3 = 2–3 4 = > 3

Number of Ears Per Stalk:

[3] 1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

[1] 1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

[2] 1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K16

Angle from Stalk (Upper half):

[2] 1 = < 30° 2 = 30–60° 3 = > 60°

Sheath Pubscence:

[1] 1 = LIGHT (W22) 2 = MEDIUM (WF9)
3 = HEAVY (OH26)

Marginal Waves:

[3] 1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

[2] 1 = ABSENT (OH51) 2 = FEW (OH56A)
3 = MANY (PA11)

Width:

[0][9] CM. WIDEST POINT OF EAR NODE LEAF

Length:

[0][6][9] CM. EAR NODE LEAF

[1][0] NUMBER OF LEAVES PER MATURE PLANT

6. TASSEL:

[0][9] NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

[3] 1 = < 30° 2 = 30–40° 3 = > 45°

Peduncle Length:

[1][7] CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

[3] 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY(KY21)

[4] Anther Color:
[4] Glume Color:
1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN
6 = OTHER (Specify) _____

Pollen Restoration for Cytoplasms (o = Not Tested, 1 = Partial, 2 = Good)

[0] "T" [0] "S" [0] "C" [ ] OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

[1][4] CM LENGTH [3][9] MM. MID-POINT DIAMETER [8][6] GM. WEIGHT

Kernel Rows:

[2] 1 = INDISTINCT 2 = DISTINCT [1][8] NUMBER

[2] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

[2] 1 = GREEN 2 = PINK 3 = SALMON 4 = RED

Husk Color:

[2] FRESH
[6] DRY
1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK
4 = RED 5 = PURPLE 6 = BUFF

Husk Extention: (Harvest Stage)

[2] 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear)
3 = LONG (8–10CM Beyond Ear Tip)
4 = VERY LONG (> 10 CM)

Husk Leaf:

[1] 1 = SHORT (< 8 CM) 2 = MEDIUM (8–15 CM) 3 = LONG (> 15 CM)

JM 8/21

Shank:

[1][4] CM LONG [7] NO. OF INTERNODES

Position at Dry Husk Stage:

[3] 1 = UPRIGHT 2 = HORIZONTAL 3 = PENDENT

Taper:

[2] 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

[2] 1 = SLOW 2 = AVERAGE 3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

[1][0] MM LONG [0][7] MM. WIDE [0][5] MM. THICK

Shape Grade (% Rounds)

[2] 1 = < 20 2 = 20–40 3 = 40–60 4 = 60–80 5 = > 80

5

8. KERNEL (Dried) :

9200012

[1] **Pericarp Color:** 1 = COLORLESS 2 = RED-WHITE CROWN 3 = TAN 4 = BRONZE 5 = BROWN 6 = LIGHT RED 7 = CHERRY RED 8 = VARIEGATED (Describe) _____

[1] **Aleurone Color:** 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

[1] 1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED 7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

JMS 8/20/92 3 [1] **Endosperm Color:** 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

Endosperm Type:

[3] 1 = SWEET (su1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARCH 5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

[1][9] GM. WEIGHT /100 SEEDS (Unsized Sample)

9. COB:

[2][5] MM. DIAMETER AT MID-POINT

Strength:

[2] 1 = WEAK 2 = STRONG

Color:

[1] 1 = WHITE 2 = PINK 3 = RED 4 = BROWN 5 = VARIEGATED 6 OTHER (Specify) _____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

JMS 8/20/92

[2]	STALK ROT (Diplodia)	[2]	STALK ROT (Fusarium)	[2]	STALK ROT (Gibberella)
[1]	NORTHERN LEAF BLIGHT	[0]	SOUTHERN LEAF BLIGHT	[2]	SMUT (Common)
[0]	SOUTHERN RUST	[2]	CORN SMUT (Common)	[0]	BACTERIAL WILT
[0]	BACTERIAL LEAF BLIGHT	[0]	MAIZE DWARF MOSAIC	[0]	STUNT
[0]	OTHER (Specify)				

11. INSECT RESISTANCT (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

JMS 8/20/92

[2]	1st Brood CORNBORER	[0]	EARWORM	[0]	SAPBEETLE	[0]	APHID
[0]	ROOTWORM (Northern)	[0]	ROOTWORM (Western)				
[0]	ROOTWORM (Southern)	[ ]	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity		Kernel Type	0h43
Plant Type	0h43	Quality (Edible)	
Ear Type		Usage	

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)

Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. 1935.

The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 – A System for the Classification of Corn Inbred Lines – PhD. Thesis, Ohio State University.

COMMENTS:

Temp maximum and temp minimum/2-50 = Heat units (Fahrenheit Temperature)

6

EXHIBIT E

Statement of the Basis of Applicant's Ownership

Dent corn inbred 911 was developed by the Northrup King Co. corn breeding staff from germplasm sources cited in Exhibit A of the application. Northrup King Co. believes that the inbred is novel as defined in the Plant Variety Protection Act, and therefore, that Northrup King Co. is the sole owner of the inbred.

State of Delaware

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "NORTHRUP KING CO.", CHANGING ITS NAME FROM "NORTHRUP KING CO." TO "NOVARTIS SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF DECEMBER, A.D. 1996, AT 9 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.

GREAT SEAL OF THE STATE OF DELAWARE • 1793 • 1847 • 1907 •

LIBERTY AND INDEPENDENCE

Edward J. Freel

Edward J. Freel, Secretary of State

0829320 8100

960389892

AUTHENTICATION: 8267947

DATE: 12-31-96

CERTIFICATE OF AMENDMENT OF CERTIFICATE OF INCORPORATION

OF

NORTHRUP KING CO.

It is certified that:

1. The name of the corporation (hereinafter called the "Corporation") is Northrup King Co.

2. The Certificate of Incorporation of the Corporation is hereby amended by striking out Section 1 thereof and by substituting in lieu of said Section the following new Section.

1. The name of the Corporation is Novartis Seeds, Inc.

3. The amendment of the certificate of incorporation herein certified has been duly adopted and written consent has been given in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

4. The effective date of the amendment herein certified shall be January 1,1997.

Signed on December 27, 1996.

Edward C. Resler
Vice President & Secretary